

Climatological Data for April, 1910.
DISTRICT No. 12, COLUMBIA VALLEY.

EDWARD A. BEALS, District Editor.

GENERAL CLIMATOLOGICAL CONDITIONS.

The month was a favorable one for nearly all purposes, and outdoor work, especially farming, proceeded with scarcely any interruption. The soil was easily worked and, while the rainfall was deficient, it fell opportunely, and vegetation made splendid progress. The mild weather was especially favorable for lambing, and practically no losses occurred. The season in the lowlands was from 2 to 3 weeks earlier than last year, while in the foothills in the Cascade Range it was not so far advanced, and in some localities in Washington it was reported as being slightly backward. No serious damage was done by frost, and the only losses occurred in localities where no protective measures were taken. There were no severe storms. The Columbia and Snake rivers began to rise about the 7th of the month, and they continued rising with scarcely any interruptions until the end of the month, but the flood stage was not reached at any of the gaging stations on these rivers, although at Vancouver, Wash., it came within one-tenth of a foot of the flood stage. Backwater from the Columbia caused the Willamette River at Portland to reach a stage of 16.3 feet at the end of the month, which is 1.3 feet above the flood stage.

Estimates regarding the flow of irrigation water in Montana, while varying somewhat, are generally to the effect that a normal supply will be obtained during the summer months.

TEMPERATURE.

The mean temperature, as determined from the records of 222 stations, was 51.2°, and it was above the normal in nearly all sections, especially in the eastern portion of the district where, in Montana, Idaho, and Wyoming, this was the warmest April on record at most stations. The greatest departures from seasonal temperatures were in the extreme southwest portion and over the eastern half of the district, where the mean temperatures were 4° to 6° above the normal, and in the lower levels in portions of the central Snake River drainage basin they even reached 8° above the average. The mean temperatures in the lower Columbia River, in the Puget Sound, and the coast drainage areas more nearly approximated the normal, those in the 2 last-named sections generally ranging either slightly above or slightly below the average.

The warmest sections were in the bottom lands of the Snake River along the central portion of its course, and along the Columbia River both northward and southwestward from the mouth of the Snake River, where mean temperatures of about 59° occurred. The coolest sections were, as usual, along the coast, and in the higher elevations of the interior, especially in the Blue Mountains and in the main range of the Rockies.

Low minimum temperatures prevailed quite generally east of the Cascade Mountains on the 3d and 4th, and again on the last few days of the month, but the period of coldest weather with frosty conditions over the whole district was from the 13th to the 15th, inclusive, and it was generally on one of the included dates that the minimum temperatures for the month were recorded at most of the stations. The warmest weather obtained from the 22d, approximately, to the 27th, the period being, as usual, longer in the eastern sections than in the coast counties.

The highest mean temperature was 59.8° at Blalock, Oreg., in the Columbia River Basin at an elevation of 237 feet, and also at Guffey, Idaho, on the watershed of the middle portion of the Snake River at an elevation of 2,381 feet. The lowest mean temperature was 41.0° at Range, Oreg., on the John Day watershed at 3,500 feet elevation. The highest recorded temperature was 100° at Guffey, Idaho, on the 25th, and the lowest

was 4° at Alta, Wyo., in the upper Snake drainage basin, on the 4th.

PRECIPITATION.

The average precipitation, as determined from the records of 335 stations, was 1.76 inch, which is below the normal. The precipitation was generally above the average in southwestern Washington, in the middle and lower valleys of the Snake River, and in portions of the valley of the upper Columbia River, the departures being generally slightly less than half an inch, although Lakeview, Idaho, reported 1.39 inch above the normal, and East Sound, Wash., 1.03 inch above. The greatest deficiencies occurred west of the Cascade Mountains, and generally at those stations having the greatest average monthly rainfall. Over the eastern portion of the district there were 4 distinct rainy periods as follows: 1st to 3d, 6th to 14th, the 20th or 21st, and 27th to 30th; while in Oregon and Washington the first 2 periods noted were merged into 1, making 3 as follows: 1st to 13th, 19th and 20th, 25th to 30th. By far the greater portion of the monthly amounts fell during the first half of the month, the 2d and 7th being days on which unusually heavy rainfalls were recorded.

The comparatively light April snowfall occurred mostly during the first half of the month, and it generally melted quite rapidly, so that at the close of the month the greater portion of the snow that remained on the ground at the higher levels, and in the ravines, gulches, and canyons at moderate elevations, was principally the accumulation of the preceding months. It is generally well packed, and in the northern Cascade Mountains in Washington, and in the Kootenai Mountains in Montana, the depth is reported to be slightly more than the average for this season of the year.

The heaviest precipitation occurred west of the Cascade Mountains, where 1 to 7 inches fell. Over the remainder of the district, the rainfall was generally less than 4 inches, the greatest amounts falling at moderate elevations.

The greatest monthly precipitation was 7.83 inches at Trask, a station in the coast drainage area in Oregon, and no rainfall occurred at Ephrata, Wash., in the valley of the central Columbia, at an elevation of 1,265 feet, and also at Omak, Wash., on the Okanogan watershed. The greatest 24-hour fall was 2.00 inches on the 2d at Glenora, Oreg., in the coast drainage area, elevation 575 feet. Other heavy 24-hour falls of over an inch were 1.88 inch at Forks, Wash., on the 7th; 1.86 inch at Rock Creek, Oreg., on the 2d; 1.72 inch at Aberdeen, Wash., on the 7th; 1.65 inch at Lone Tree, Wash., on the 7th; 1.54 inch at Trask, Ore., on the 7th; and 1.40 inch at Burke, Idaho, on the 2d.

THE RIVERS.

The Columbia River.—There were no damaging floods during April, but temperatures far above the normal in Washington, Idaho, and Oregon caused the snow in the mountains to melt rapidly, and the Columbia and Snake rivers began to rise from about the 7th and were still rising on the 30th, the Columbia having reached such a stage that on that date its backwater in the Willamette brought the water at Portland to 1.3 feet above the flood stage. With the exception of the portage at The Dalles, the Columbia was navigable from its mouth as far up as Priest Rapids, Wash. That the river was unusually high is evidenced by the fact that at Vancouver with 7 years' record, at Umatilla with 17 years' record, and at Newport and Bonners Ferry with 6 years' record, the mean stage recorded for the month has never been exceeded. As compared with past years' record the average stage ranged from 2.6 feet above the normal at Vancouver, Wash., to 4.6 feet above at Umatilla, Oreg., and

7.6 feet above at Wenatchee, Wash. The mean stage was 0.5 foot lower than in March at Vancouver, 2.4 feet higher at Umatilla, and 8.1 feet higher at Wenatchee. At Vancouver the river rose from 9.5 feet on the 7th to 16.9 feet on the 30th, at Umatilla from 10.4 feet on the 7th to 18.1 feet on the 30th, and at Wenatchee from 13.0 feet on the 12th to 27.3 feet on the 30th. At the end of the month the annual rise of the Columbia is well under way. While the water is at a stage where much damage might have been done, warnings have been issued ever since the rapid rise began with the result that, so far, no losses have been reported and all parties interested are being notified of probable future stages by means of telephone, river bulletins, and the river forecasts that are being published in the daily papers.

The Snake River.—The mean of the daily stages, at the various stations, for the month, was about the same as for March, but from 3.0 to 5.0 feet above the normal for April. The water was at its lowest on the 6th and at its highest on the 30th. At Lewiston, Idaho, it rose from 9.3 feet on the 6th to 15.6 feet on the 27th. The Snake River was navigable to freight and passenger boats as far up as Asotin, Idaho.

The Willamette River.—The mean stage ranged from 0.4 foot below the normal at Eugene to 2.0 feet below at Albany and Salem, but at Portland, where the stages were determined by the height of the Columbia, it was 2.8 feet higher than usual for this period. The stage of the Willamette averaged generally about 3.0 feet lower than for March of this year. Except at Portland, where they were about the same as at Vancouver, the daily stages at the reporting stations varied little from the mean stage for the month which was 5.0 feet at Eugene and about 4.0 feet at Albany and Salem. The only rains in the valley that were sufficiently heavy to affect the run-off occurred from the 7th to the 12th.

MISCELLANEOUS PHENOMENA.

The prevailing winds were from the southwest. There was an excess of sunshine, except in western Washington where the amount fell slightly below the normal. The percentage of possible sunshine was 63 at Spokane, 39 at Seattle, and 55 at Portland. Killing frosts were general on the 14th and 28th; vegetation, however, was in excellent condition at the close of the month. Thunderstorms accompanied by hail were reported at many stations on the 2d and 10th. Several forest fires occurred in Washington during the latter part of the month. There were no very high winds reported.

A light earthquake shock was noted at Anaconda, Mont., on the 19th, about 1:30 a. m.

SNOWFALL CONDITIONS AND THE PROSPECTIVE WATER SUPPLY; UPPER COLUMBIA RIVER.

Bitterroot Basin.—The flow of water during April was greater than normal; it had begun to decrease at the end of the month. The stock of snow in the higher mountains is reported materially depleted and the prospect for a normal water flow later in the season is quite unfavorable.

Flathead Basin.—Stream flow below normal during April and decreasing at the close of the month. The indications are that the later run-off will be below normal, as the snow in the high mountains has been reduced by the warm weather to such an extent as to probably lessen materially the late flow of water.

Missoula Basin.—Reports are unfavorable, except in the vicinity of Elliston. In general the April flow was above normal and the snow supply was depleted by the warm weather.

Deer Lodge.—The stock of snow has been materially reduced and, unless there is a great deal of snow and rain in May and June, all the streams will be below normal.

Deborgia.—There will not be the normal flow of water this season unless supplemented by rain. Snow going very fast and the quantity much less than in former years.

Elliston.—Stream flow about normal, decreasing at end of month on account of the cold weather. The stock of snow has been reduced somewhat, but there is more left on the mountains than at this time last year. There will be above the normal water flow the remainder of the season, because of the greater amount of snow, due to there being no rains this spring to start the snow and the springs.

Clarke Basin.—Conditions are very favorable for normal waterflow. The amount of snow on the Divide north of the Clarke is reported to be much above normal.

Nixon.—The stock of snow has not been depleted by the warm weather. Owing to the solid condition of the snow and the amount in the higher ranges the prospect for a good supply of water is excellent.

Thompson.—The stock of snow in the high ranges has not been depleted and there seems to be an unusual amount in these regions. The flow of water should therefore be normal for the rest of the season.

IRRIGATION PROJECT IN EAGLE AND PINE VALLEYS, OREGON.

Mr. E. M. Blake, general manager of the Eastern Oregon Irrigation Company, furnishes the following information regarding the scope of the work to be undertaken by his company in Baker County, Oreg., during the coming summer. This project has been approved by the State engineer, and it is being financed by people living in Chicago, Cleveland, and Boise:

The irrigation project being undertaken by the Eastern Oregon Irrigation Company comprises about 22,000 acres of desert lands, which have been segregated under the terms of the Carey Act, in townships 8 and 9 south, ranges 45, 46, 47, and 48 east of the Willamette meridian. In addition to this Carey Act land about 7,500 acres of private lands, held under the terms of the Desert and Homestead Acts, come under the canal and will be watered by the company. Most of this land is side-hill land, especially adapted to the successful raising of fruit for which the two valleys are already noted. Some of the slopes are as high as 30°, but the nature of the soil is such as to prevent erosion even on these steep slopes, and already there exist high-grade orchards in the valleys on slopes as steep as this. The soil is a basaltic and volcanic ash with just a slight admixture of clay, and when irrigated is as fertile as any soil to be found in the northwest.

The company proposes to construct a concrete diversion dam across Eagle Creek at a point in section 27, township 7 south, range 44 east of Willamette meridian. From this point the canal will follow the east side slopes of the Valley of Eagle Creek for a distance of about 9 miles before reaching the first of the lands to be irrigated, continuing on to cover approximately 30,000 acres of land in Eagle and Pine valleys. The details of construction cover several siphons, some fluming, and possibly one or two tunnels if distance can thereby be shortened, which will be determined as soon as the final surveys can be completed. In all there will probably be about 23 miles of main canal.

The drainage area above the point of diversion covers the watershed of the Granite Mountains and the high hills and mountains of the Sanger, Sparta, and Cornucopia mining districts, running up to the Divide between Eagle Creek and the Imnaha River. The exact area of this watershed has never been determined, but it is approximately 150 square miles. The average annual rainfall, so far as it can be stated from the available data, is about 16 inches, but this is mostly in the form of snow which does not melt until very late in the season. In fact, Eagle Creek keeps up its large flow until late in July of each year, storage being required for a period of only about 30 days. The percentage of run-off to rainfall is very high and Eagle Creek is known as one of the best and most constant streams in the State. The State engineer is at the present time making a water survey of all lands watered from Eagle Creek by arrangement with this company. This will be the first step in adjudicating the water rights on Eagle Creek in order that the company may determine accurately how much storage must be provided. Storage sites exist above the points of diversion which will be surveyed this spring, probably in conjunction with the surveying party of the State engineer.

COOPERATIVE INVESTIGATIONS OF WATER SUPPLY AND ITS RELATIONS TO THE DEVELOPMENT OF CENTRAL OREGON.

By J. C. STEVENS, District Engineer, U. S. Geological Survey.

Central Oregon has long held the distinction of being the largest area in the United States without railroad transportation. The present indications are that this distinction will not attach to it much longer.

The latent resources of this large area are fast attracting the attention of homeseekers and those desiring to invest in the development of these resources. Perhaps the most important development will be along agricultural lines. The territory is an arid one, and irrigation is necessary. While there is a considerable area that can be utilized for profitable development under dry farming processes, the crops resulting from irrigated agriculture will far exceed those from the dry farms.

The water supply of this territory is distributed with no degree of uniformity. There is a comparatively small area that can be irrigated by individual effort. On the other hand, there are large areas that can be irrigated as community enterprises. Under the provisions of the Carey Act large areas are already in a state of development by corporations who have contracted

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Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.		
Montana.																			
Anaconda	Deer Lodge	5,300	9	47.4 ^a		83 ^a	25	22 ^a	15	40 ^a	0.35	- 0.35	0.15	T.	3	9	13	8	C. D. Demond.
Bison	Powell	7,240									0.83		0.50	6.0	4	31	6	3	C. H. Anderson.
Columbia Falls	Flathead	3,100	16																Mrs. I. M. Kennedy.
Comof ^{ss}	Ravalli		12	53.8		92	25	26	15	48	0.74		0.22	0.0	10	11	12	7	Hiram Platt.
Darby	do.	3,825	2																W. A. Kerlee.
Dayton	Flathead	2,800		47.8		85	24	22	6	47	1.50		0.50	0.0	5	22	0	2	Charles Frost.
East Anaconda	Deer Lodge	5,500	6	48.6		84	25	23	31	38	0.50		0.30	T.	3	9	13	8	C. D. Demond.
Fortine	Lincoln	3,975	4	47.3		87	25	18	14	57	0.72		0.32	T.	11	9	12	9	Mike Petery.
Hamilton	Ravalli	3,575	7	54.4		89	24	26	15	45	0.20		0.10	0.0	3	18	11	1	J. B. Currie.
Hat Creek	Powell	6,000									1.07		0.30	4.5	8	9	15	6	M. K. Landreth.
Kalispell	Flathead	2,965	11	47.8	+ 5.3	84	25	25	14	42	0.86	- 0.20	0.21	2.1	10	10	11	9	U. S. Weather Bureau.
Lost Creek	Deer Lodge	5,200									0.11		0.08	0.3	2	18	12	0	Frank Henault.
McGinnis Meadows	Lincoln			47.8 ^a		87 ^a	25	16 ^a	14	55 ^a									H. L. Beebe.
Missoula	Missoula	3,225	32	51.2	+ 6.2	90	25	26	15	50	0.66	- 0.32	0.42		5	6	10	6	U. S. Weather Bureau.
Ophir	Powell	8,800									1.07			4.0	6	10	14	6	E. S. Wilton.
Ovando	do.	4,207	10																S. B. Muchmore.
Philipsburg	Granite	5,275	7	48.6 ^a		89 ^a	25	19 ^a	15	54 ^a	0.37	- 0.43	0.12	2.0	4	17 ^a	8 ^a	4 ^a	G. T. Bramble.
Plains	Sanders	2,475	12	49.4	+ 4.4	87	25	23	14	44	0.10		0.10	0.0	1	17	1	12	M. H. Pierce.
Pleasant Valley	Flathead	3,500	3	46.0		83	25	20	14 ^a	51	0.89		0.20	0.0	10	12	12	6	A. D. Stillman.
Polson	do.	2,920	2								1.00		0.45	0.0	3				F. S. Brown.
St. Ignatius	Missoula	2,700	4	51.6		89	25	22	15	51	1.03		0.21	0.5	11	12	5	13	U. S. Reclamation Service.
St. Regis	do.	2,650	2	48.8		93	25	20	15	60	1.35		0.38	0.0	8	7	16	7	R. D. Lee.
Saltese	do.	3,600	6								1.42		0.42	5.0	5	24	0	6	E. K. Tarbox.
Snowshoe	Lincoln	4,500	4																J. C. Ritter.
Troy	do.	1,880	14	52.7	+ 6.7	93	25	22	7	51	1.88	+ 0.65	0.67	T.	7	13	15	2	W. E. Milnor.
Upper Lake McDonald	Flathead	3,200	2																F. F. Liebig.
Wyoming.																			
Afton	Uinta	6,200	6	43.8	+ 4.8	78	26	14	4	49	1.11	- 0.57	0.50	2.0	6	19	4	7	A. V. Call.
Alta	do.		1	42.2		74	26 ^a	4	4	42	1.49		0.42	3.0	7	16	3	11	Mrs. Lucy Brown.
Bedford	do.	5,900	10	43.0	+ 5.7	76	26	10	5	52	0.37	- 1.08	0.19	1.9	4	17	6	7	C. G. Heiner.
Snake River	Yellowstone Park	7,000	4	37.1		71	25 ^a	1	15	48	2.60		0.60	20.0	10	19	6	5	U. S. Army.
Nevada.																			
San Jacinto	Elko			43.0		78	24	12	14	52	0.86		0.27	1.0	6	14	6	10	Moses Jones.
Utah.																			
Standrod	Boxelder		6	48.8		80	26	17	15	34	1.39		0.65	1.0	6	18	0	6	T. B. Jones.
Idaho.																			
Atlanta	Elmore	5,500	4								1.46		0.70	T.	5	15	10	5	H. Warder Lewis.
Albion	Cassia		8	49.9		85	24	14	15	52	0.79		0.42	T.	2	17	11	2	G. A. Axline.
Almo	do.																		Wm. L. Eames.
American Falls	Oneida	4,341																	O. H. Barber.
Blackfoot	Bingham	4,503	15	50.3	+ 4.7	85	25 ^a	16	15	51	0.07	- 6.00	0.15	0.0	6	14	14	2	E. A. Dowd.
Blackfoot Dam	do.		2	42.7		78	26	11	4	44	0.77		0.21	1.0	10	18	6	6	N. W. Irsfeld.
Blanchie	Lincoln		2	54.8 ^c		95 ^c	25	23 ^c	3	53 ^c									Mrs. Belle Hess.
Bock's Ranch	Elmore	3,500									1.10		0.46	0.0	6				William Bock.
Bogus Creek	Boise	4,200									2.83		0.83	0.0	8	12	14	4	F. P. Ingraham.
Boise	Ada	2,770	25	55.9	+ 5.8	91	25	29	15	39	1.10	- 0.08	0.59	T.	7	14	7	9	U. S. Weather Bureau.
Bonnets Ferry	Bonner	1,850	4	48.6		88	25	22	14	49	1.60		0.42	0.0	10	9	16	5	W. H. Heideman.
Boulder Mine	Boise	4,800									2.01		0.70	0.0	8	18	7	5	Patrick Moriarty.
Buhl	Cassia	3,800	4			93	26				0.82		0.37	0.0	3	17	13	0	H. J. Idema.
Burke	Shoshone	4,032	3	42.8		83	25	17	14	45	4.38		1.40	9.5	12	9	16	5	Wm. J. Hall.
Caldwell	Canyon	2,372	6	55.7		91	25	23	4	52	1.05		0.43	0.0	6	8	14	8	Prof. Wm. J. Boone.
Camas	Fremont	4,815				85	24 ^a				1.44		0.46	T.	8	14	15	1	Mrs. Edna Faulkner.
Cambridge	Washington	2,651	13	53.0	+ 3.3	90	25	26	47	52	1.73	+ 0.49	0.70	T.	7	9	14	7	Chas. H. Shepherd.
Chesterfield	Bannock	5,424		47.7	+ 6.3	83	26	22	4	50	0.72	- 0.23	0.42	2.0	4	9	14	7	Chas. S. West.
Clawson	Fremont										0.89		0.30	1.0	7	17	6	7	E. J. Hopkins.
Coeur d'Alene	Kootenai	2,157									2.67		1.02	0.0	6				Jos. T. Scott.
Cottonwood Creek	Boise	4,000									2.52		0.80		5				Frank Hedrick.
Crawford	do.	4,300		45.8 ^a		82 ^a	25	17 ^a	4	51 ^a	2.52		0.92	0.0	5	15	3	12	Mrs. Gertrude Kerby.
Culdesac	Nes Perce	1,520	2	54.2		92	19 ^a	20	15	55	2.08		0.92	0.0	5	15	3	12	R. R. Richmond.
Deary	Latah			49.4		90	25	22	14	49			0.88	5.0	14	9	7		H. M. Call.
Dent	Nes Perce	1,350	5	48.0		97	25	31	30	45	2.22		0.65	0.6	8	11	13	6	Emil Schuessler.
Driggs	Fremont	6,097	3	42.8		76	26	12	15	44	0.92		0.28	2.0	6	14	5	11	Walter H. Durrant.
Edie	do.			45.1		78	25	20	31	44	1.40		0.55	4.0	3	23	4	3	Geo. B. Edie.
Edwardsburg	Idaho	4,500		42.6		78	25	10	4	54									W. A. Edwards.
Emmett	Canyon	2,350	4								0.40	- 0.78	0.15	3.0	6	9	7	14	E. L. Marvin.
Forney	Lemhi			46.6	+ 5.7	85	27	14	3	54			0.54	0.0	8	15	9	6	M. B. Merritt.
Garden Valley	Boise	3,600		51.6 ^a		92 ^a	25	25 ^a	47	57 ^a	2.12		0.54	0.0	6	15	9	6	Mrs. Gertrude M. Ross.
Garnet	Elmore	2,575	11	59.4	+ 4.7	97	25	28	4	51	0.79	+ 0.10	0.73	0.0	2	21	3	6	Asa A. Kenison.
Gilbert	Nes Perce	3,030																	J. B. Loomis.
Glenns Ferry	Elmore	2,599	2	57.2		97	25	20	15	57	0.94		0.48	0.0	6	22	5	3	I. E. Perkins.
Gooding	Lincoln	3,572		53.2		94	25	18	15	57	0.77		0.23	0.0	7	20	6	4	John Krall, Jr.
Grand Forks	Shoshone	3,000		42.6		88	25	19	15	50	4.47		1.32		12	15	9	6	Henry Kottkey.
Grandview	Owyhee	2,381		55.4		93	24 ^a	24	4	56	0.39		0.17	0.0	5	18	7	5	N. G. Massey.
Green Timber	Fremont										2.21		0.45	0.0	7				Otto Stegelmeier.
Grimes Pass	Boise	5,200									0.57		0.21	0.0	7				Joseph M. Clarke.
Guffey	Owyhee	2,381	2	59.8		100	25	31	51	51	0.57		0.21	0.0	7				Fred Perry.
Halley	Blaine	5,347	6	49.7		84	25	22	3	42	0.81		0.34	T.	6	18	6	6	U. S. Forest Service.
Hotspring	Owyhee	2,752	5	58.4		93	25	27	47	50	1.30		0.80	0.0	4				

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				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days.	Number of clear days.	Number of partly cloudy days.		
Idaho—Cont'd.																			
Milner	Cassia	4,097	7	53.5 ^b		86 ^b	25	18	15	43 ^b	1.11		0.47	0.0	5	13	13	4	R. A. Hanson.
Moscow	Latah	2,748	18	51.2		86	25	28	31	36	1.77		0.50	0.8	11	12	9	9	University of Idaho.
Mountainhome	Elmore	3,150	5	54.2		94	25	15	15	56	0.53		0.27	0.0	3	13	8	9	Mrs. Ellen Manion.
Murtaugh	Cassia		4	50.4 ^a		82 ^a	25	17 ^a	15	54 ^a	1.07		0.50	T.	3	22	4	4	J. E. Steinhour.
Nes Perce	Nes Perce	3,182		48.0		86	25	21	15	45			0.76		2	17	0	13	P. Mitchell.
Oakley	Cassia	4,191	17	52.8	+ 5.6	90	25	20	15	45	0.15	- 0.75	0.16	T.	2	10	13	8	John Adams.
O'Hara Bar	Idaho	1,400				95 ^b	24	26 ^b	15	58 ^b									U. S. Forest Service.
Orofino	Nes Perce	1,027	5	54.2		98	25	27	15	60	2.46		0.50	0.0	14	12	14	4	Geo. Altenecker.
Payette	Canyon	2,159	20	54.2	+ 2.3	90	24	25	4	52	0.97	+ 0.17	0.30	T.	6	14	5	11	E. F. Allen.
Pebble	Bannock	5,277		46.1		81	26	21	16	49	1.06		0.46	1.5	6	16	11	3	Mrs. Fannie Say.
Pierson	Custer	7,000	2								2.07		0.62	10.0	4	21	0	9	David P. Clarke.
Pine	Elmore	4,100																	Mrs. Jennie Pottel.
Placerville	Boise	4,200																	James McDevitt.
Pleasant Valley	Ada	3,000	3	54.0		94	25	22	15	45	1.04		0.40	0.0	7	18	5	7	C. E. Friedrich.
Pocatello	Bannock	4,483	11	51.9	+ 5.1	84	26	25	15	37	1.54	- 0.48	0.71	0.7	6	15	9	6	U. S. Weather Bureau.
Pocatello Nursery	do.	5,396	3	45.8		81	25 ⁺	10	14	49	1.31		0.53	0.8	5	23	0	7	Mrs. Anna M. Wrensted.
Poplar	Bingham		2	47.0		84	26	10	14	44	1.08		0.22	1.0	7	16	6	8	Stanley Bybee.
Porthill	Bonner	1,665	23	49.6	+ 3.9	80	24	25	14	42	0.73	- 0.37	0.17	0.0	9	17	2	11	H. A. French.
Powers Ranch	Boise	4,300									1.72		0.86	0.0	7	18	7	5	Mrs. Mona B. Powers.
Pyle Creek	do.	3,100									2.21		0.66	T.	6	14	9	7	Walter L. Cole.
Rattlesnake Creek	Elmore	4,000									1.84		0.60	T.	8	11	10	9	Richard M. Green.
Ruby Creek	Boise	4,400									2.48		0.98	0.0	9	10	14	6	O. A. Hatter.
Rupert	Lincoln	4,204	4	51.7		85	24 ⁺	19	15	48	0.59		0.25	0.0	6	24	2	4	Will Parry.
Salmon	Lemhi	4,440	5	51.0		88	25	14	15	58	0.41		0.11	0.2	6	15	12	3	E. K. Abbott.
Salmon River Dam	Twin Falls		2	52.7		86	25	22	3	41	0.79		0.34	T.	7	13	9	8	Arch M. Gilbert.
Sheep Hill	Boise	5,000	2								1.39		0.47	T.	8				Clifford M. Gardner.
Shoshone	Lincoln	3,968	2	52.1		85	25	20	15	46	0.33		0.14	0.0	4	14	15	1	O. A. Truman.
Silver City	Owyhee	6,280	3								1.90		0.53	T.	7	20	7	3	A. D. Bradfield.
Smith Prairie	Elmore	5,200									1.61		0.34	1.0	3				Wm. W. Newell.
Soldier	Blaine	5,200																	W. W. Leek.
Sugar	Fremont		3	47.7		83	25	14	15	54	0.62		0.24	T.	8	14	10	6	Geo. F. Webb.
Sunnyside	Elmore			53.8		92	25	23	15	49	0.91		0.65	0.0	3				E. A. Wilmut.
Tilden	Bingham	4,420	2																Mrs. W. A. Edwards.
Tripod Mountain	Boise	4,300									1.62		0.65	T.	6	16	7	7	Mrs. Verna Paddock.
Twin Falls	Twin Falls	3,825	5	53.4		91	25	22	15	53	0.73		0.40	0.0	4	19	11	0	J. A. Waters.
Vernon	Fremont		13	47.4	+ 5.9	82	26	16	15	47	0.85	- 0.23	0.33	T.	7	15	12	3	U. S. Slattery.
Wallace	Shoshone	2,728	3	48.4		91	25	24	14	51	3.67		1.36		13				U. S. Weather Bureau.
Wendell	Lincoln	3,400	2																Chas. L. Dinger.
Washington.																			
Aberdeen	Chehalis	162	19	48.8	+ 0.4	76	22	33	14	36	5.28	- 1.41	1.72	0.0	14	3	24	3	Carl S. Weatherwax.
Anacortes	Skagit	60	16	48.1		71	23	30	14 ⁺	34	1.37	- 0.81	0.33	0.0	11	11	14	5	Douglas Allmond.
Baker	do.	200	4	50.6		93	23	32	18	51	4.49		0.92	0.0	11	10	8	12	Robt. M. White.
Bellingham	Whatcom	60	15	49.0	0.0	72	30	32	17	38	1.98	- 0.15	0.68	0.0	8	17 ^a	4 ^a	8 ^a	Sanford B. Mayhew.
Blaine	do.	53	13	46.6	+ 0.4	70	2 ⁺	30	17	31	2.64	- 0.01	0.66	0.0	13	11	10	9	John W. Sheets.
Blewett	Chelan	2,200									0.74		0.40	4.0	6	20 ⁺	6 ⁺	4 ⁺	John Burneister.
Bremerton	Kitsap										2.36		0.50	0.0	12				U. S. Navy Yard.
Brewster	Okanogan			53.4		88	24	32	15	39	0.18		0.12	6.0	2	13	13	4	Mrs. H. F. Bertram.
Bumping Lake	Yakima																		U. S. Reclamation Service.
Cashmere	Chelan										0.36		0.25	6.5	2	12	14	4	Valley Power Co.
Cedar River	King		3								4.62		0.78	0.0	16	7	4	19	George Landsburg.
Centralia	Lewis	212	17	50.3	+ 0.9	91	23	30	6 ⁺	51	3.32	- 0.22	0.88	0.0	10	8	18	4	I. S. Turner.
Cheney	Spokane	2,351	11	51.2		86	25	19	8	40	0.88	- 0.17	0.29	0.0	5	14	13	3	Northern Pacific Ry.
Clealum	Kittitas	1,930	11	46.2	+ 1.9	85	25	25	15	49	1.18	- 0.22	0.69	6.0	6	17	9	4	J. A. Balmer.
Clearbrook	Whatcom	140	7	46.9		85	23	27	27 ⁺	47	2.93		1.60	0.0	6	11	3	16	Geo. Gibbs.
Clearwater	Jefferson	135	14																A. Ritchie.
Colfax	Whitman	2,300	21																W. H. James.
Colville	Stevens	1,635	10	51.7	+ 4.8	92	25	23	14	54	0.48	- 0.48	0.19	0.0	6	12	4	14	W. L. Sax.
Conconully	Okanogan	2,300	10	50.8	+ 4.6	85	25	27	3	39	0.67	- 0.15	0.46	0.0	3	17	0	13	Wm. Baines.
Cowiche	Yakima																		U. S. Reclamation Service.
Crescent	Lincoln	2,250	10	50.0 ^a	+ 3.9	88 ^a	25	20	2	47 ^a	0.77	- 0.19	0.42	0.0	2	21	2	7	Otto Wollweber.
Davenport	do.	2,450	1	50.3		86	25	22	3	40	0.95		0.35	0.0	4	17	10	3	W. H. Reed.
Dayton	Columbia	1,700	24																W. W. Hendron.
Detroit	Mason	30	2	49.7		86	23	31	15 ⁺	46	2.92		0.99	0.0	14	15	8	7	Walter O. Eckert.
Dixie	Walla Walla	5,000	1								3.93		1.02	4.0	14	10	7	13	T. Z. Andrews.
Duckabush	Jefferson	380	2	46.0 ^b		84 ^b	27 ⁺	27 ⁺	29 ⁺	41 ⁺	3.33		0.79	0.3	15	5 ⁺	7 ⁺	12 ⁺	E. J. Finch.
East Sound	San Juan	500	15	48.1	+ 0.7	71	23	31	5	36	2.89	+ 1.03	0.80	T.	10	17	8	5	Benj. E. Harrison.
Ellensburg	Kittitas	1,571	22	50.4	+ 2.6	92	25	25	15	53	0.37	- 0.21	0.21	0.0	3	17	9	4	R. Lee Barnes.
Ephrata	Grant	1,265	7	54.8 ^a		90 ^a	25 ⁺	21	1	57	0.00		0.00	0.0	0	18 ^a	4 ^a	7 ^a	T. J. Cook.
Forks	Challam	480	1	48.6 ^a		77 ^b	25	30 ^c	17 ⁺	38 ⁺	6.92		1.88	T.	19	8 ^a	12 ^a	9 ^a	E. A. Markham.
Fort Simcoe	Yakima	1,427	16	52.9	+ 0.6	92	25	20	14	50	1.00	+ 0.60	0.50	0.0	3	18	9	3	Frank C. Hill.
Goat Lake	Shohomish	2,900	1								5.50		1.64	19.5	16				C. M. Mackintosh.
Gold Creek	Yakima	2,600	1								0.89		0.36	3.5	3				

TABLE 1.—Climatological data for April, 1910. District No. 12—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.	
				Mean.	Departure from the normal.	Highest.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelting.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.			
Washington—Cont'd.																				
Moxee.....	Yakima.	1,000	18	54.4	+ 4.1	95	25	21	3	51	0.17	- 0.29	0.07	0.0	3	6	21	3	w.	Henry B. Scudder.
Newport.....	Stevens.			48.7		91	25	21	14	55	1.95		0.67	4.5	9	16	9	5	sw.	Chas. M. Talmadge.
North Head.....	Pacific.	211	8	47.1	- 0.4	57	15	28	6	15	3.44	+ 0.22	1.29	0.0	14	6	13	11	nw.	U. S. Weather Bureau.
Northport.....	Stevens.	1,950	11	51.4		89	24	23	13	53	0.40	- 0.63	0.20	0.0	3	18	9	3		John Palm.
North Yakima.....	Yakima.	1,076	1	55.4		90	24	28	3	41	0.08		0.05	0.0	2	18	8	4	nw.	Albert Bender.
Nutland.....	Klickitat.			55.8		91	24	29	26	40	0.52		0.32	0.0	3					J. R. Shepard.
Odessa.....	Lincoln.	1,540	7	54.2		93	26	24	14	49	0.40		0.40	T.	1	8	15	7	sw.	Wm. U. Neesley.
Oiga.....	San Juan.	50	20	47.2	- 0.8	88	23	32	6	26	1.93	- 0.11	0.38	0.0	11	10	10	10	sw.	Cecil S. Willis.
Olympia.....	Thurston.	200	32	48.9	0.0	87	23	29	14	48	3.62	- 0.17	1.10	0.0	11	9	15	6	nw.	M. O'Connor.
Omak.....	Okanogan.			55.6		92	25	24	14	48	0.00		0.00	0.0	0					Wm. G. Tait.
Oroville.....	do.	922	1	53.8		90	24	22	14	48	T.		T.	0.0	0	7	17	5	s.	A. M. Duffield.
Peola.....	Garfield.	5,000	1								2.06		0.56	6.1	13	5	10	4	sw.	Samuel Gruell, sr.
Pomeroy.....	do.	1,500	18	54.8	+ 4.4	94	25	30	4	41	1.23	- 0.00	0.60	T.	7	14	12	4	w.	Peter McClung.
Port Crescent.....	Clallam.	259	15	42.9	- 1.8	67	23	29	17	28	1.58	- 0.94	0.42	T.	16	3	23	4	nw.	U. S. Weather Bureau.
Port Townsend.....	Jefferson.	80	20	47.9	- 0.6	71	23	35	6	31	1.27	- 0.40	0.43	0.0	15	9	7	14	w.	Frank Plummer.
Pullman.....	Whitman.	2,550	18	52.6	+ 5.3	88	25	29	11	34	2.26	+ 0.87	0.75	1.0	8	13	8	8	sw.	State Agricultural College
Quinalt.....	Chehalis.	300	3	48.2		80	24	31	14	37	6.33		1.45	0.0	19	7	16	7	w.	A. V. Higley.
Republic.....	Ferry.	2,628	10	47.2	+ 1.9	85	24	19	14	50	6.35		0.09	0.0	8	15	4	11	nw.	Geo. B. Stocking.
Rex Creek.....	Chelan.	1,135	3			78	20	33	14	32	0.39		0.15	0.0	4	6	0	12	nw.	James W. Nicol.
Ritzville.....	Adams.	1,525	11								1.09	+ 0.67	0.64	0.0	6					Northern Pacific Ry.
Rock Lake.....	Whitman.	1,750	4	51.9		88	24	27	14	40	1.30		0.44	0.0	7	16	7	7	sw.	P. M. Ramsey.
Rosalia.....	do.	2,425	18	50.5	+ 4.3	85	25	26	3	39	1.52	+ 0.11	0.80	1.5	6	9	10	11	sw.	Hans Mumm.
Russells Ranch.....	Yakima.	870	1																	Maggie M. Russell.
Scenic Hot Springs.....	King.	921																		J. V. Prosser.
Seattle.....	do.	123	19	49.4	0.0	83	23	35	2	34	2.41	- 0.27	0.53	0.0	14	6	6	18	s.	U. S. Weather Bureau.
Sedro-Wooley.....	Skagit.	38	13	53.4	+ 3.0	94	23	31	17	51	3.65	+ 0.46	1.11	0.0	15	5	13	12		Mrs. H. L. Devin.
Sixprong.....	Klickitat.	1,240	3	56.6		93	25	30	14	37	0.71		0.40	0.0	6	11	7	12	sw.	C. E. Comstock.
Skagit Power Dam.....	Whitcom.	123		48.8		86	25	31	17	44	5.00		1.50	0.0	15					Skagit Power Co.
Snohomish.....	Snohomish.	50	16	48.0	- 0.9	88	23	31	15	48	2.85	- 0.59	0.47	0.0	15	9	7	14	nw.	Warren Dodge.
Snoqualmie Falls.....	King.	667	11	49.8		86	23	32	30	43	4.21	+ 0.01	0.73	0.0	18	11	6	19		O. N. Wiswell.
Snyders Ranch.....	Okanogan.	2,200	1								0.08		0.06	0.0	2	18	10	2	sw.	Geo. M. Snyder.
South Bend.....	Pacific.	16	15	47.8	- 1.4	77	22	31	14	37	5.15	- 2.64	1.45	0.0	15	10	6	14	w.	Miss Winifred Eichner.
Spokane.....	Spokane.	1,943	29	52.0	+ 4.3	87	25	30	3	38	1.32	+ 0.03	0.57	T.	9	5	9	16	sw.	U. S. Weather Bureau.
State University.....	King.	170	1	48.3		83	23	35	2	38	2.66		0.53	0.0	13	9	8	13	s.	University of Washington.
Stokes Ranch.....	Okanogan.	2,670	1								0.13		0.12	0.0	1	10	14	5	sw.	Amos Stokes.
Sullivan Lake.....	Stevens.	2,700									1.09		0.44	0.0	10	15	2	13		U. S. Forest Service.
Sumner.....	Pierce.	77	2	49.0		86	23	31	15	48	3.04		0.71	0.0	15	9	7	14	w.	H. E. Thompson.
Sunnyside.....	Yakima.	740	15	55.9	+ 4.4	94	25	24	14	49	0.44	+ 0.09	0.30	0.0	3	11	14	5	sw.	U. S. Reclamation Service.
Tacoma.....	Pierce.	213	24	49.6	+ 0.7	85	23	34	2	39	2.86	+ 0.10	0.87	T.	12	10	7	13	sw.	U. S. Weather Bureau.
Tatoosh Island.....	Clallam.	86	25	45.4	- 1.4	58	23	35	2	13	4.18	- 1.88	0.91	T.	19	5	7	18	s.	Do.
Tieton.....	Yakima.	2,000	1	48.6		84	24	27	14	44	1.05		0.56	2.3	8	19	5	6	w.	U. S. Reclamation Service.
Touchet.....	Walla Walla.	556	3	56.3		91	24	29	14	48	0.72		0.23	0.0	6	10	11	9	sw.	D. W. Dorrance.
Touchet Ridge.....	Columbia.	2,500	1								3.63		0.94	4.0	6	13	9	8	n.	R. H. King.
Trinidad.....	Grant.	900	6	56.8		90	24	34	13	38	0.26		0.20	0.0	2	19	8	3	nw.	J. C. Wheeler.
Twisp.....	Okanogan.	1,619	7																	E. J. Allen, Jr.
Tyee.....	Chelan.	2,000	1								0.22		0.10	0.0	4	7	16	7	w.	Elias McCrea.
Vancouver.....	Clarke.	100	35	53.2	+ 1.5	96	23	31	14	45	3.41	+ 0.85	0.87	0.0	12	6	15	0	nw.	A. A. Quarnberg.
Vashon Island.....	King.	110	21	48.8	0.0	91	22	33	16	40	2.76	- 0.26	0.65	0.0	14	12	1	17	s.	Miss Gertrude McClintock.
Wahluke.....	Grant.	410	6	59.1		95	25	33	15	42	0.13		0.13	0.0	1	12	6	12		F. C. Koppert.
Wallace.....	Okanogan.	4,006	1								0.25		0.12	0.0	4	11	18	1	s.	G. A. Wallace.
Walla Walla.....	Walla Walla.	1,000	26	57.0	+ 4.2	92	25	34	14	36	1.47	- 0.23	0.44	0.0	8	11	13	6	sw.	U. S. Weather Bureau.
Waterville.....	Douglas.	2,624	20																	O. R. Hopewell.
Wenatchee (near).....	Chelan.	1,169	11	50.4	+ 2.4	84	24	30	2	33	0.17	- 0.57	0.16	1.0	2	10	11	9	w.	Geo. A. Pitzer.
West Branch.....	Stevens.	2,600																		U. S. Forest Service.
Wilbur.....	Lincoln.	2,203	11	51.4	+ 5.8	87	24	26	34	42	0.55	- 0.31	0.45	2.0	2	12	11	7	sw.	Rollin J. Reeves.
Yale.....	Cowlitz.	375	3	51.2		89	24	28	14	46	6.05		1.38	0.0	14	12	8	10	sw.	L. F. Williams.
Zindel.....	Asotin.	715	8																	M. W. Zindel.
Oregon.																				
Albany.....	Linn.	214	28	51.4	+ 0.4	90	23	31	14	43	1.89	- 1.18	0.30	0.0	12	15	7	8	n.	F. M. French.
Ashland.....	Jackson.	1,040	22	55.4	+ 5.6	89	24	31	14	43	1.33	- 0.49	0.42	0.0	6	7	14	9	w.	F. H. Carter.
Astoria.....	Clatsop.	11	48	49.5	- 0.2	69	17	37	6	30	5.05	- 1.21	1.34	0.0	15	15	4	11	nw.	Irving Club.
Baker City.....	Baker.	3,466	20																	U. S. Weather Bureau.
Bay City.....	Tillamook.	14	15	48.6	- 0.3	66	17	31	28	34	5.24	- 1.53	1.10	0.0	17	10	10	10	nw.	J. O. Bosarth.
Bend.....	Crook.	3,629	8																	F. O. Minor.
Birch Creek.....	Wheeler.	2,900	1	55.1		88	23	26	4	39	0.36		0.32	0.0	2	14	7	5	w.	F. S. Matteson.
Black Butte.....	Lane.	1,200	9	50.2		84	24	29	3	35	2.02		0.50	0.0	9	15	8	7	ne.	William Harris.
Blalock.....	Gilliam.	235	11	59.8	+ 4.1	95	25	34	14	40	0.24	- 0.30	0.20	0.0						

TABLE 1.—Climatological data for April, 1910. District No. 12—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.			Number of cloudy days.
Oregon—Cont'd.																				
Joseph.....	Wallowa.....	4,400	21	43.6	+ 1.8	82	25	19	14	40	2.24	+ 0.85	0.33	2.5	11	7	7	16	n.	F. F. McCully.
Le Grande.....	Union.....	2,784	24	52.4	+ 4.7	82	25	25	15	45	1.62	+ 0.08	0.54	0.0	10	13	9	8	se.	W. A. Worstell.
Madras.....	Crook.....	2,150	1																	Robert Rea.
Marshfield.....	Coos.....	12	6	50.6		74	17	32	14	37										Mrs. E. I. Mingus.
McKenzie Bridge.....	Lane.....	1,400	7	51.4		91	22	24	4	57	2.58		0.60	0.0	14	11	0	19	w.	Geo. Frissell.
McMinnville.....	Yamhill.....	180	22	52.0	+ 1.7	85	22	30	14	46	3.46	+ 0.38	0.82	0.0	13	13	7	10	sw.	J. H. Pruett.
Mikkalo.....	Gilliam.....	1,600	4	53.0		86	24	28	14	44	0.58		0.25	0.0	7	19	5	6	w.	Frank Little.
Miramonte Farm.....	Clackamas.....	195	21	53.0	+ 1.4	86	24	30	14	44	3.64	+ 0.56	0.82	0.0	12	14	5	11	sw.	G. M. Muecke.
Monroe.....	Benton.....	350	13	52.2	+ 1.7	88	23	30	14	44	2.33	+ 0.15	0.84	0.0	9	10	6	12	sw.	L. A. Peek.
Mount Angel.....	Marion.....	485	24	53.5	+ 1.4	85	23	29	2	34	3.14	+ 0.39	0.65	0.0	8	12	4	14	sw.	Dr. W. F. Fisher.
Mount Hood.....	Hood River.....	1,650									1.74		0.80	0.0	8	17	6	7	w.	S. G. Babson.
Mountain Park.....	do.....	1,550	4	50.2		87	24	28	14	42	2.98		1.20	T.	10	8	7	14	w.	M. Markley.
Musick.....	Douglas.....	5,000		43.2		78	23	11	3	46	4.32		0.71	14.5	12	15	2	13	sw.	Alex. Lundburg.
Newport.....	Linton.....	69	22	48.8	+ 0.2	66	17	34	14	26	4.38	+ 0.98	1.03	0.0	15	3	17	10	nw.	William Matthews.
Pendleton.....	Umatilla.....	1,272	20	56.4	+ 4.8	94	25	27	15	46	1.04	+ 0.07	0.30	0.0	10	11	15	4	sw.	H. F. Johnson.
Pilot Rock.....	do.....	1,872	1	55.4		90	25	29	15	46	1.02		0.23	T.	9	10	17	3	sw.	John P. McManus
Pompeii.....	Clackamas.....	3,580	15			77	24	19	14	33			1.11	12.6	6	10	4	7	sw.	O. C. Yocum.
Portland.....	Multnomah.....	57	38	53.8	+ 0.9	86	22	34	14	35	3.78	+ 0.70	1.32	0.0	12	7	9	14	sw.	U. S. Weather Bureau.
Prineville.....	Crook.....	3,000	13	53.0	+ 5.5	92	23	19	14	56	0.57	+ 0.24	0.25	0.0	5	17	9	3	sw.	E. F. Graham.
Prospect.....	Jackson.....	2,750	4	51.2		82	17	23	14	54	1.78		0.55	1.0	10	12	11	7	sw.	Mrs. Iva B. Collins.
Ramsey.....	Wasco.....	1,350	4	50.3		84	24	26	14	39	1.10		0.36	0.0	5	13	9	8	w.	Craig Thom.
Range.....	Grant.....	3,500	1	41.0		85	23	10	11	57	0.70		0.32	1.0	5	10	12	8		C. G. Morgan.
Richland.....	Baker.....	2,350	8	53.0		90	25	24	4	52	0.78		0.25	0.0	5	16	6	8		Mrs. Leah Fairman.
Riverside.....	Malheur.....	3,000	11	56.6	+ 8.1	90	24	19	14	56	0.60	+ 0.02	0.35	0.0	3	15	11	4	w.	U. S. Weather Bureau.
Roseburg.....	Douglas.....	523	33	54.2	+ 2.8	92	24	32	14	46	1.73	+ 0.73	0.52	0.0	11	11	13	6	nw.	M. P. Baldwin.
Salem.....	Marion.....	120	20	52.6	+ 2.0	84	23	34	14	36	2.27	+ 0.74	0.44	0.0	11	6	5	19	nw.	Lewis F. Bates.
Siskiyou.....	Jackson.....	4,115	1	50.2		81	23	26	3	34	0.95		0.48	0.0	4	12	8	10	e.	Hon. J. A. Wright.
Sparta.....	Baker.....	4,150	17	49.3	+ 5.6	81	24	23	14	38	4.45	+ 1.01	0.20	3.0	5	18	10	2	w.	John P. Gage.
Stafford.....	Clackamas.....	400	13	51.8	+ 1.4	86	23	30	14	35	4.42	+ 0.92	0.99	0.0	14				sw.	S. L. Brooks.
The Dalles.....	Wasco.....	112	35	54.8	+ 1.3	90	24	30	14	41	0.83	+ 0.17	0.30	0.0	5	15	4	11	w.	Willis T. White.
The Heads.....	Curry.....	300	5																	C. B. Crosno.
Toledo.....	Linton.....	50	20	51.4	+ 2.3	83	22	28	1	41	6.66	+ 0.80	1.20	6.0	12	16	10	4	n.	Mrs. Helen T. Duncan
Umatilla.....	Umatilla.....	340	14	59.0	+ 4.4	95	24	32	15	43	0.20	+ 0.36	0.05	0.0	6	13	3	16	w.	H. P. Osborn.
Vale.....	Malheur.....	2,450	18	55.6	+ 7.1	93	25	21	16	55	0.60	+ 0.22	0.34	0.0	3	22	8	0	nw.	Geo. Howe.
Van.....	Harney.....	3,506	4	51.0		88	24	21	15	54	0.47		0.42	0.0	2	12	13	5	nw.	Chas. A. Parks.
Wallace Orchard.....	Polk.....	170	1	51.6		86	23	30	14	44	2.65		0.70	0.0	13	7	15	8		L. J. Coverstone.
Wallowa.....	Wallowa.....	2,935	7	50.0		89	25	25	15	53	2.85		0.58	1.0	13	10	3	17	nw.	A. J. Swift.
Wasco.....	Wasco.....	1,500	2	56.0		90	25	35	15	40	0.90		0.30	0.0	5	14	7	9	w.	C. C. Covey.
Warm Springs.....	Crook.....	1,600	8	55.1		91	24	25	12	48	0.54		0.25	0.0	4	21	5	4	nw.	M. A. Baker.
Weston.....	Umatilla.....	1,800	20	54.4	+ 6.1	94	25	30	14	45	1.18	+ 0.94	0.25	0.0	12	8	7	15	nw.	J. M. John.
Williams.....	Josephine.....	1,368	17	54.4	+ 4.6	92	23	28	14	54	0.86	+ 0.65	0.45	0.0	5	9			n.	

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

* Precipitation included in that of the next measurement.

** Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.

† Also on other dates.

‡ Separate dates of falls not recorded.

§ Data are from standard instruments not supplied by the U. S. Weather Bureau.

|| Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

¶ Estimated by observer.

⌋ Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—Daily precipitation for April, 1910. District No. 12—Continued.

Stations.	River basins.	Day of month.																																Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
<i>Washington—Cont'd.</i>																																		
Port Townsend.....	Puget Sound.....	.04	.02	.10	.03	.32	.11	.02	.03	.10	.12	.05	.02	.20								.03											1.27	
Pullman.....	Palouse.....	.75	.10	.15	T.		.15	.18	.30	.53											.10											2.26		
Quinalt.....	Coast.....	.60	.10	.14	.12	.42	.01	.45	.70		.08	.28	.35	.27						.03	.34	.05				.02	.18	.01	.18			6.33		
Republic.....	Kettle.....					.01	.01	.09	.09	.03	.04	.03																					0.35	
Rex Creek.....	Columbia.....	.08			T.	.12			.04	T.	.15			T.																			0.39	
Ritzville.....	do.....	.22	.01			.05		.12		.64		.05																					1.09	
Rock Lake.....	Palouse.....	.34	.12			.10		.14	.44	.14										.02		.18											1.30	
Rosalia.....	do.....	.80				.08	.30	.11	.05					T.																			1.52	
Russells Ranch.....	Yakima.....																																	
Scenic Hot Springs.....	King.....																																	
Seattle.....	Puget Sound.....	.08	.29	.07	T.	.38	.01	.44	.49	T.	.19	.08	T.	.28							.01					T.	T.		.01	.04			2.41	
Sedro-Woolley.....	do.....	.13	.40	.01	.05	.11	.07	.35	.43	.43	.18	.10	.09	.14							.13								.06				3.65	
Sixprong.....	Columbia.....		.09				.01	.01	.19	.01																T.					.40		0.71	
Skagit Power Dam.....	Puget Sound.....	.45	.38	.06	.08	.15	.10	.96	.60	.38	.06	.09	.07	.10						.04		.15											5.00	

TABLE 2.—Daily precipitation for April, 1910. District No. 12—Continued.

Stations.	River basins.	Day of month.																																Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
<i>Oregon—Cont'd.</i>																																		
Grindstone.	Deschutes.	.07								T.	T.	.05	T.																.06	.10	.07	0.35		
Gumboot.	Snake.	.32	.32	.22			.19		.09		.14	.72			T.						.29							.40	.10			2.69		
Gurdane.	Columbia.	T.	.12				.06		.16		.16	.04	.60		T.						.15							T.		.36		1.59		
Happy Home.	Umpqua.	.20	.04			.08	.14		.50	.35	.45	.14									T.				.14	.08		.05	.22	.28		3.62		
Hay Creek.	Deschutes.		.08						.10	.06																			.05	.26		0.55		
Haseldell.	Willamette.	.24	.48		T.		.15	.65	.87	.20	.14	.06	.26	.04	T.					.24								.08	.31	T.		1.61		
Head Works.	do.	.33	.95	.12				.51	.18	.06	.26	.04	T.								.32								.07	.42		5.03		
Heppner.	Columbia.		.11				.06		T.	.08	.09	.02		T.							.06								.21	.10		0.73		
Hermiston.	Umatilla.	.09					.03	.02		.09	.10	.01																					0.34	
Hilgard.	Grande Ronde.	.20					.20		.10	.40	.20	.25																.05	T.			1.40		
Hood River.	Columbia.						.04	.01	T.																				.10	.25		0.45		
Hoover.	Willamette.	.90	.85				.16	.53	.09		.30																						3.24	
Howardville Station.	Grande Ronde.	.03	.61	.10			.10	.03	.31	.11	.51		.09																.16	.05		2.41		
Huntington.	Snake.		.18					.17		.85	.15																						1.95	
Iber Mine.	John Day.	.08	.38	.40			.34	T.	T.	.02	.03	.06																						

TABLE 3.—Maximum and minimum temperatures at selected stations for April, 1910. District No. 12, Columbia Valley.

Date.	Montana.						Idaho.																							
	Kalispell.		Missoula.		Afton, Wyo.		Boise.		Bonners Ferry.		Holeprong.		Lewiston.		Mackay, Id.		Meadows.		Pocatello.		Salmon.		Shoshone.		Vernon.		Wallace.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	44	28	53	29	57	27	62	43	45	30	70	45	50	38	28	45	23	62	38	67	25	63	35	56	32	46	29	46	29	
2...	48	35	44	34	55	33	52	37	46	33	60	43	52	41	19	42	22	54	33	54	32	50	34	46	34	40	33	40	33	
3...	43	31	47	31	50	17	48	34	50	35	54	32	55	31	22	45	27	43	28	40	26	48	27	41	25	44	31	41	31	
4...	46	33	56	31	40	14	57	31	51	34	60	27	63	36	23	55	21	49	29	57	25	64	27	47	19	52	33	47	33	
5...	66	33	70	30	53	13	69	44	65	38	71	33	74	44	20	65	25	60	35	70	23	64	30	58	25	67	33	67	33	
6...	54	37	57	38	55	23	61	48	53	38	68	46	60	43	23	62	36	58	38	58	39	58	38	57	30	50	38	50	38	
7...	49	33	60	30	54	25	68	43	45	30	72	41	55	42	23	53	30	64	35	70	27	65	32	60	31	47	30	47	30	
8...	50	41	64	40	64	25	77	45	53	38	80	45	66	48	30	69	40	71	40	79	37	74	38	69	32	52	37	52	37	
9...	52	41	70	37	69	28	73	48	60	40	78	43	59	49	31	68	32	71	46	78	30	73	43	70	30	49	39	49	39	
10...	60	35	68	39	77	29	73	58	65	40	76	44	70	49	35	66	39	71	43	71	35	71	41	69	34	65	34	65	34	
11...	58	42	63	45	67	28	61	47	65	41	79	39	68	53	39	63	42	69	56	70	41	66	43	68	37	58	39	58	39	
12...	60	43	64	42	65	30	63	39	55	38	78	40	66	49	34	62	37	63	43	70	35	65	35	65	39	56	39	56	39	
13...	47	35	47	39	57	29	54	37	54	34	73	38	55	48	32	54														

TABLE 3.—Maximum and minimum temperatures at selected stations for April, 1910. District No. 12—Continued.

Date.	Walla Walla, Wash.		Oregon.																					
			Ashland.		Baker City.		Eugene.		Gold Beach.		Hermiston.		Marshfield.		Portland.		Prineville.		Roseburg.		The Dalles.		Vale.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1.....	53	44	60	46			62	41	55	38	64	37	51	37	50	40	66	48	54	42	62	43	64	33
2.....	53	39	58	42			55	43	52	47	65	37	53	46	50	41	56	34	54	39	50	40	57	42
3.....	55	38	54	35			70	35	55	38	62	39	54	40	57	40	65	27	56	36	54	33	54	31
4.....	67	41	70	47			65	35	65	38	73	37	66	34	64	41	72	24	73	32	66	37	68	40
5.....	75	49	62	42			65	40	56	38	76	40	53	43	55	45	74	34	65	39	66	43	58	24
6.....	57	41	61	42			62	41	57	36	72	40	55	43	53	41	62	36	61	43	56	40	71	52
7.....	53	46	62	36			58	41	60	40	59	45	55	42	51	43	62	38	60	44	53	42	65	50
8.....	67	47	61	40			49	45	60	48	73	47	62	50	54	45	69	40	70	45	62	43	74	68
9.....	56	50	60	42			64	43	57	47	70	61	56	44	56	45	61	52	62	46	58	48	74	51
10.....	62	46	64	43			57	45	61	48	66	43	61	49	56	46	60	37	60	46	58	45	71	37
11.....	64	51	64	44			56	46	56	47	71	50	59	47	60	46	64	34	60	46	63	46	71	31
12.....	65	48	63	40			63	46	60	44	70	45	55	42	56	43	64	28	62	46	61	44	66	29
13.....	52	38	58	42			59	40	53	40	68	40	55	40	51	40	51	30	57	36	54	40	58	31
14.....	56	34	65	31			55	32	56	33	61	31	57	32	57	34	61	19	64	32	58	30	76	31
15.....	60	40	75	37			58	36	63	37	72	27	62	35	72	41	74	24	77	34	66	32	69	30
16.....	74	47	75	43			71	42	59	35	77	53	55	47	57	45	78	29	67	38	65	40	76	21
17.....	81	52	87	46			59	40	67	37	83	39	74	37	75	42	88	32	79	41	78	40	82	33
18.....	88	52	85	50			70	45	58	44	89	41	56	45	84	49	89	34	84	46	84	44	85	32
19.....	84	52	75	48			82	44	61	43	88	46	60	42	62	49	85	45	80	44	80	53	85	40
20.....	65	50	62	44			59	48	61	48	80	50	60	48	65	50	65	36	63	47	64	46	73	52
21.....	60	47	77	39			63	46	60	48	75	46	62	49	67	46	79	29	74	50	73	44	71	31
22.....	83	50	85	42			69	43	66	42	84	56	72	42	82	48	91	35	88	43	82	42	82	33
23.....	84	51	87	54			79	43	56	41	89	40	63	45	89	55	92	56	91	49	87	46	86	33
24.....	89	60	89	51			86	48	55	42	93	44	63	47	85	50	92	40	92	46	90	50	91	37
25.....	92	58	84	54			83	47	58	47	95	53	65	46	65	53	90	40	87	48	85	50	93	38
26.....	65	49	62	43			61	42	56	37	92	59	59	40	63	48			62	36	65	49	87	47
27.....	65	43	65	39			62	35	56	35	71	34	55	35	63	43	68	29	65	35	70	38	71	42
28.....	62	45	61	43			63	39	56	36	70	51	59	37	60	42	61	38	63	36	65	46	68	50
29.....	65	51	52	39			61	39	53	37	69	31	54	37	65	43	55	38	55	40	70	40	66	29
30.....	60	45	58	41			55	45	58	44			61	46	60	48	64	25	59	44	64	48	59	41
Means.....	67.6	46.5	68.0	42.8			62.1	41.8	58.0	41.2	75.1 ^a	43.2 ^a	59.1	42.2	62.8	44.7	71.0 ^a	34.9 ^a	66.8	41.6	67.0	42.7	72.4	38.9